

(No Model.)

3 Sheets—Sheet 1.

A. B. ROBINSON.

MACHINE FOR CUTTING AND SHOCKING STANDING CORN.

No. 518,551.

Patented Apr. 17, 1894.

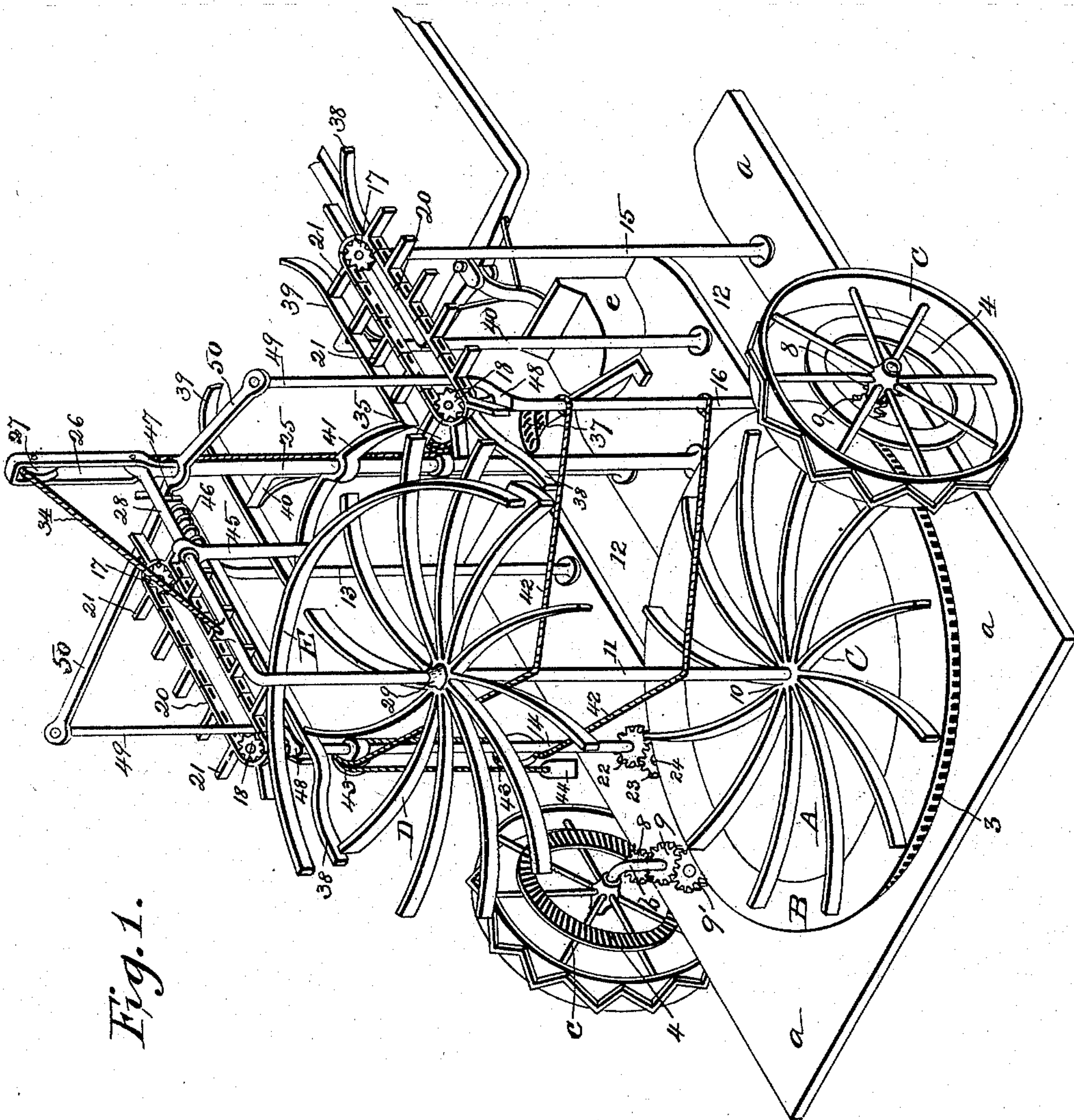


Fig. 1.

Witnesses:

*Jos. Blackwood*  
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Inventor.

*Asa B. Robinson*

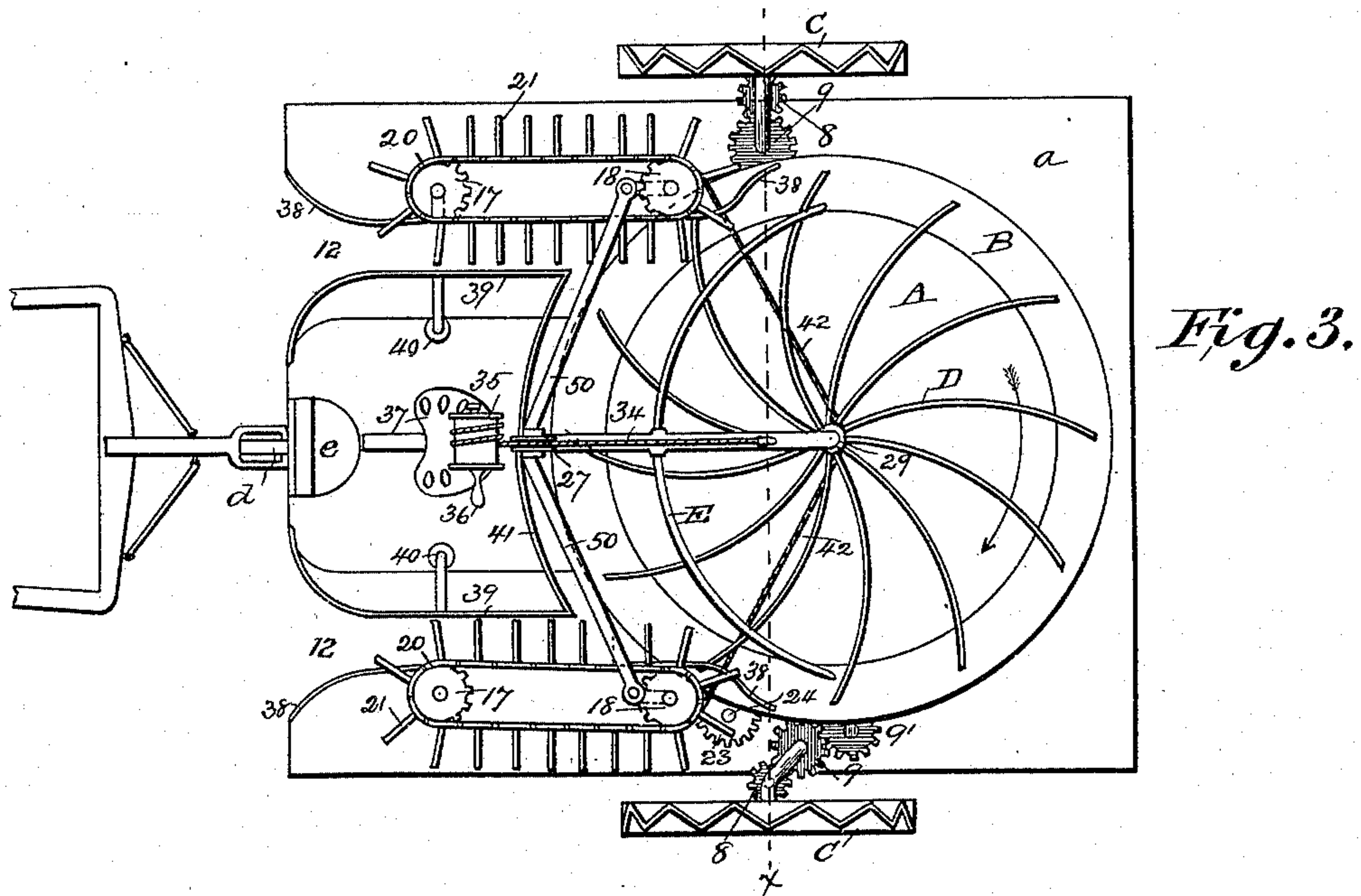
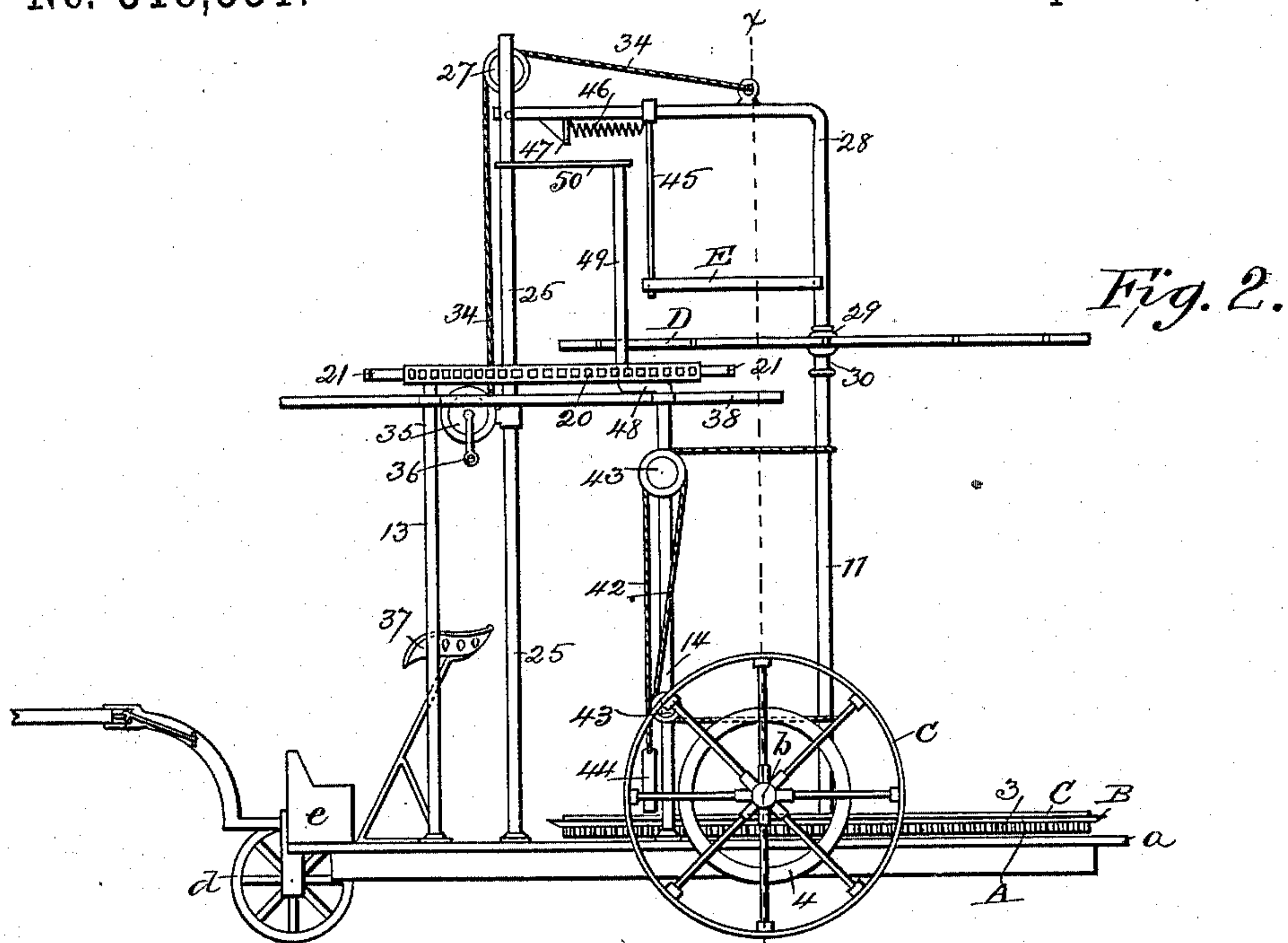
by *J. W. Tatum*

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3. Sheets—Sheet 2.

MACHINE FOR CUTTING AND SHOCKING STANDING CORN.

Patented Apr. 17, 1894.



Witnesses:

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(No Model.)

3 Sheets—Sheet 3.

A. B. ROBINSON.

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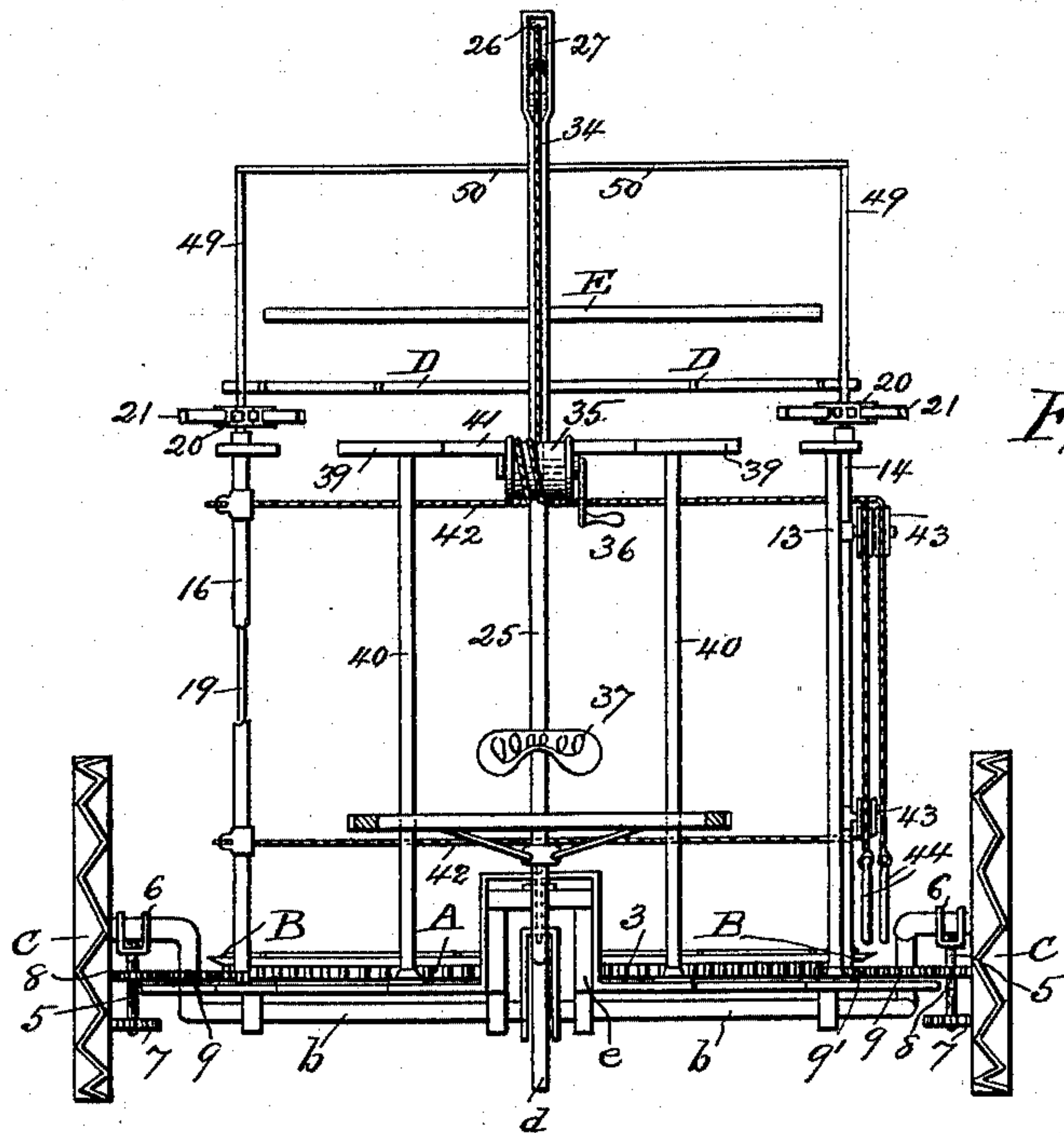


Fig. 4.

Fig. 5.

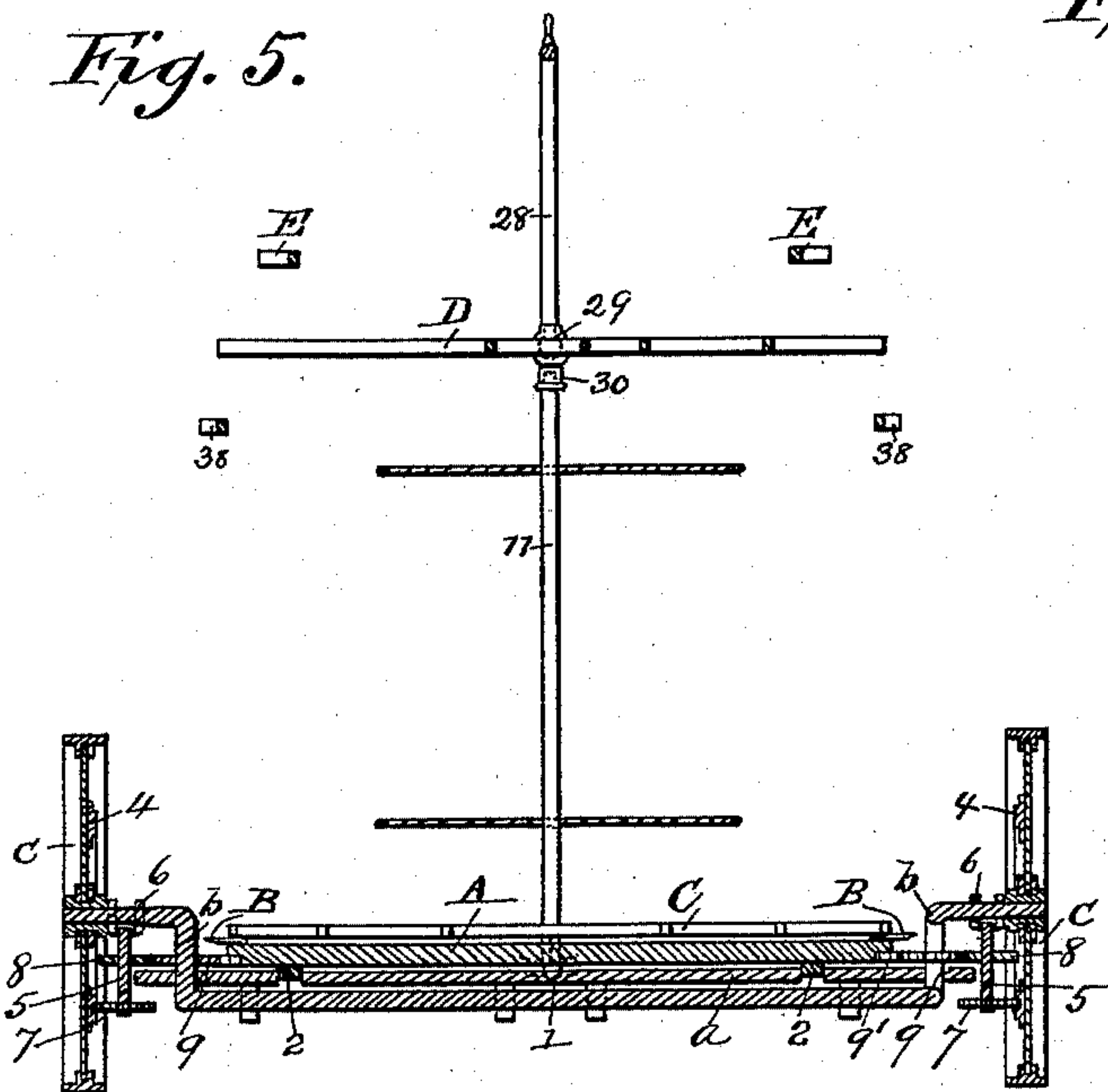
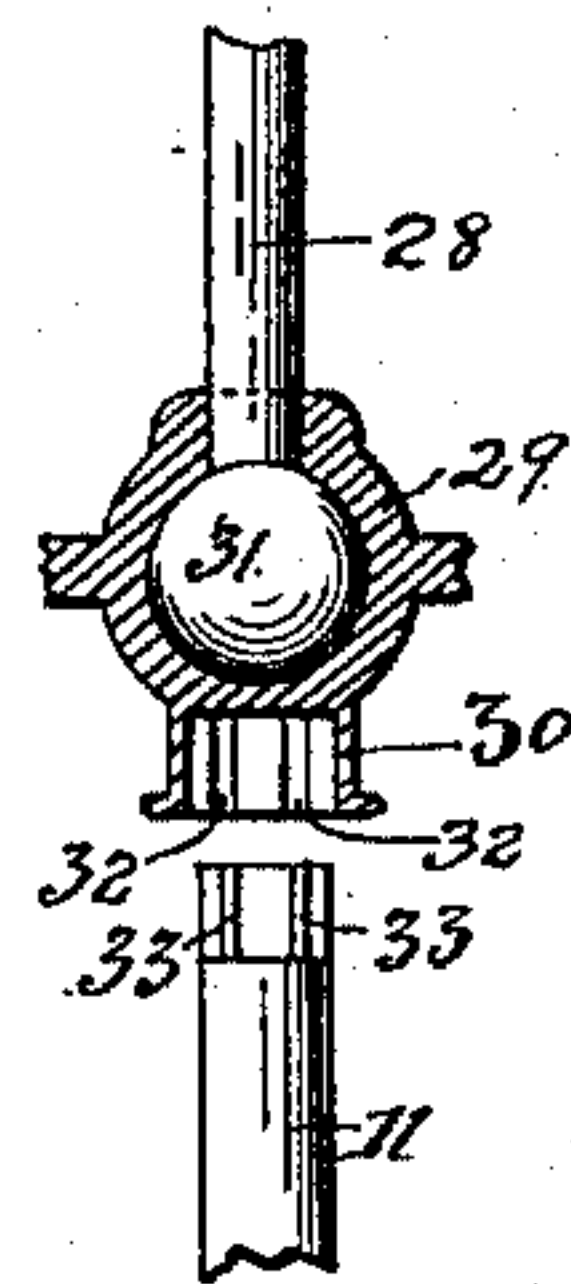


Fig. 6.



Witnesses:

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Inventor.

Aaron B. Robinson  
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# UNITED STATES PATENT OFFICE.

AARON BLACK ROBINSON, OF MARYSVILLE, OHIO.

## MACHINE FOR CUTTING AND SHOCKING STANDING CORN.

SPECIFICATION forming part of Letters Patent No. 518,551, dated April 17, 1894.

Application filed January 20, 1894. Serial No. 497,476. (No model.)

*To all whom it may concern:*

Be it known that I, AARON BLACK ROBINSON, a citizen of the United States, residing at Marysville, in the county of Union and State of Ohio, have invented certain new and useful Improvements in Machinery for the Purpose of Cutting and Shocking Standing Corn; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to corn harvesters; and it has for its object the production of a machine to simultaneously cut two rows of corn and form the stalks into a perfect shock, the working of the device up to the time of removing the shock from the machine being automatic.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 is a perspective view of my improved harvester. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan view of the harvester. Fig. 4 is a front elevation of the same. Fig. 5 is a vertical sectional view taken on the line *x x*, Figs. 2 and 3. Fig. 6 is a detail view, partly in elevation and partly in section, showing the manner of attaching and operating the upper gatherer.

Referring to the drawings, A represents a rotating table resting on a central bearing 1 and further supported by friction rollers 2 fitted in the stationary platform *a* of the machine. This platform is supported by an axle *b*, formed similar to an ordinary crank-axle, having at each end a wheel *c*, and also by a caster-wheel *d*, which is protected by a cover *e*. The table A has a cog-gearing 3 attached to its outer edge; and a similar gearing 4 is attached to the inner side of each of the wheels *c*. On the lower end of a shaft 5, revolvably mounted in a hanger 6, secured to the axle *b* on each side, is a gear-wheel 7, meshing with cog-gearing 4 on wheels *c*. On each shaft 5, near the upper end thereof, is rigidly secured another gear-wheel 8, which meshes with a gear-wheel 9 loosely mounted

on the vertical portion of axle *b*. The wheel 9, on one side of the machine, meshes directly with the cog-gearing 3 on table A, but on the other side meshes with cog-gearing 3 through the medium of a gear-wheel 9', all as clearly seen in Fig. 3. The effect of this arrangement is, as is obvious, to give a rotary motion to the table A from the motion of wheels *c* as the machine is moved forward.

Securely fastened to the upper side of table A, and projecting slightly beyond the outer edge thereof, is a circular knife B, for the purpose of cutting the stalks of corn as they come into contact with it. Also secured on the upper surface of table A, above the knife, is a gatherer C, composed of a series of curved arms radiating from a central hub 10; and passing through the hub 10 and having a bearing in the table A, is a vertical shaft 11, around which the shock is formed. The lower end of this shaft is squared and fits into a square socket in table A, thus rendering the shaft 11 removable from the rotating table A, but when in place on that table, all motion of the latter is imparted to the shaft.

In the platform *a*, in front of the table A, and at a distance apart equal to the distance of two rows of corn, are two slotted openings 12, extending from the front of the platform backward slightly beyond the edge of the knife, and serving, as the machine is moved forward, to allow the knife B to come into contact with the stalks of corn. The outer ends of the openings 12 are flared to insure the entrance of the stalks. Four upright standards, 13, 14, 15, and 16, are located between the openings 12 and the outer edge of the platform *a*. Two of the standards, 13 and 15, are secured, one on each side to and near the front edge of the platform *a*, while the other two, 14 and 16, which are tubular, as seen in Fig. 4, are secured to the platform, one on each side, near the rotating table A. Loosely mounted on the upper ends of standards 13 and 15 are sprocket-wheels 17, similar wheels 18 being rigidly mounted on the upper ends of shafts 19 located in the hollow standards 14 and 16, and around these two sets of sprocket-wheels pass sprocket-chains 20, having attached thereto arms 21, which serve as a means for steadying the upper ends of the stalks of corn and forcing the stalks back into the upper



gatherer D, which will be described hereinafter. On the lower ends of shafts 19, which are revolubly mounted in the standards 14 and 16, are gear-wheels 22. Motion is transmitted to the gear-wheel 22 on the left-hand side of the machine by a gear-wheel 23, loosely mounted on a stud 24 secured in the platform, meshing with it and with the cog-gearing 3 on table A, the gear-wheel 22 on the right-hand side meshing directly with the cog-gearing 3. The object of this arrangement is to impart motion to the arms 21 in the proper direction.

Near the forward end of platform *a*, between the openings 12, is a post 25, the upper end of which is slotted at 26, and contains, in the upper end of said slot, a pulley 27. Pivotaly secured in the lower end of the slot 26 is a hanger 28, which, a short distance from its pivotal connection, is turned downward at a right angle, being, when so bent, in a line directly over shaft 11. On the lower end of hanger 28 is revolubly attached the upper gatherer D, similar in construction to gatherer C, and which is secured and operated in the following manner: The hub 29 of gatherer D, is in the form of a hollow sphere, from which a short tubular projection 30 extends downward, the interior diameter of the projection being sufficient to receive the end of shaft 11. A ball 31, secured on the lower end of the hanger 28, serves as a bearing for the hub of the gatherer D. The interior of projection 30 is grooved, as at 32, and splines 33 on shaft 11 fit in said grooves 32 when the gatherer D is in place, thus causing said gatherer to revolve with shaft 11 and yet be capable of being lifted free from connection with that shaft. The grooves 32 and splines 33 are so arranged that the arms of the gatherers C and D are in vertical alignment when in place on the machine.

To the hanger 28, near the point at which it is turned downward, is secured a rope 34, which passes over pulley 27, down along post 25, and is wound around a drum 35 mounted on post 25 and operated by a handle 36. Directly beneath this drum is secured the driver's seat 37 in such manner that he can easily reach the handle to operate the drum.

Supported by standards 13 and 14, and 15 and 16, are guide-bars 38, which are directly above the outer edge of openings 12. Guide-bars 39 are attached to another set of standards 40 located on and near the forward end of platform *a*, said guide-bars being in vertical alignment with the inner edge of openings 12. Centrally supported by the post 25 is a rearwardly curved guide-bar 41, the purpose of which will be explained hereinafter. These guide-bars, 39 and 41, may, if preferred, be formed integral, as shown in the drawings.

To standard 16 are attached two ropes 42, one near the upper end and the other near the lower end of said standard. The ropes are passed in rear of shaft 11 and over pulleys 43 on the standard 14, and have weights

44 attached to the ends thereof, serving to keep the ropes taut.

A curved compressing-bar E is securely attached to an arm 45 movably hung on the horizontal portion of the hanger 28. This bar, which is above the upper gatherer D, serves to compress the shock and is held in operative position by a spring 46, one end of which is secured to a lug 47 on hanger 28, and the other end bears against the upper portion of arm 45.

Brackets 48 are attached to standards 14 and 16, near the upper ends thereof, and upright- rods 49 rise from the brackets and are fastened, respectively, to each end of a cross-piece 50, which is secured to the post 25, the object of this arrangement being to brace the parts.

The operation of my harvester is as follows: The machine being drawn forward by the horses, motion, as hereinbefore described, is imparted to the mechanism. The standing stalks of corn passing through openings 12 in platform *a*, assisted by arms 21 on sprocket-chains 20, and by guides 38 and 39, come into contact with the knife B, are severed and passed onto the rotating table A. Once on the table A, the stalks, supported in front by the curved guide 41 and in rear by the compressing-bar E, are carried around by the curved arms of the gatherers C and D until coming into contact with ropes 42, which latter, as pressure is exerted thereon, are pushed backward to permit the stalks to pass the end of the compressing-bar E, after which the weights 44 draw the ropes forward again and the stalks are gradually forced toward the center shaft 11. The stalks are held against shaft 11 by ropes 42 until the former pass around in front of shaft 11 where the ropes no longer exert a pressure, when the compressing bar E holds the partly formed shock in place until it is again pressed by the ropes 42. The weights 44 on the ends of the ropes 42 allow the latter to adjust themselves to the increasing size of the shock. After a desired quantity of corn is formed into a shock the machine is stopped, the shock is tied, drum 35 is operated to raise the upper gatherer D from the shock, the shaft 11 is removed from its socket and raised from the shock, and the latter is removed from the platform and dropped behind the machine. The shaft 11 is put in place, gatherer D is lowered into position and the machine started to form another shock.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-harvester, the combination, with a platform having slotted openings through which the cornstalks pass, an axle on which the platform is secured, and carrying wheels mounted on said axle, of a table on which the shock is formed, revolubly mounted on the platform, a circular knife secured on said table, an upper and a lower gatherer,



each comprising a hub and radial arms, the lower gatherer being rigidly secured on the table above the knife, a vertical shaft on which the gatherers are mounted, the lower end of said shaft being removably fixed in the table in a manner to permit the shaft to rotate with the latter, and means for rotating the table.

2. In a corn-harvester, the combination, with a platform having slotted openings through which the cornstalks pass, means for forcing the corn rearward through the slotted openings, an axle on which the platform is secured, and carrying-wheels mounted on said axle, of a table on which the shock is formed mounted on the platform, a circular knife secured on the table, an upper and a lower gatherer, each comprising a hub and radial arms, the lower gatherers being rigidly secured on the table above the knife, a vertical shaft on which the gatherers are mounted, the lower end of said shaft being removably fixed in the table in a manner to permit the shaft to rotate with the latter, a yielding compressing-bar, and means for rotating the table.

3. In a corn-harvester, the combination, with the slotted platform, of the revoluble table mounted thereon, means for revolving the table, the circular knife secured on said table, the upper and lower gatherers each

comprising a hub and curved radial arms, the vertical shaft adapted to turn with the table and having the gatherers mounted thereon, a vertically-swinging hanger to which the upper gatherer is revolubly attached, and means for raising and lowering the hanger and gatherer.

4. In a corn-harvester, the combination, with the slotted platform, of the revoluble table mounted thereon, means for revolving the table, the circular knife secured on said table, the upper and lower gatherers each comprising a hub and curved radial arms, the vertical shaft adapted to turn with the table and having the gatherers mounted thereon, a vertically-swinging hanger to which the upper gatherer is revolubly attached, means for raising and lowering the hanger and gatherer, and one or more ropes secured at one end to a fixed support on the machine, passed horizontally in rear of the vertical shaft and over pulleys and carrying weights on their free ends.

In testimony whereof I affix my signature in presence of two witnesses.

AARON BLACK ROBINSON.

Witnesses:

JAMES W. ROBINSON,

ROBERT L. WOODBURN.